logistic model. The surprising complexities of a simple model. Equilibrium points and 2-cycles. Continuous models. Two interacting species. Graphical analysis of equilibrium points.

Fahiem Bacchus, Representing and Reasoning with Probabilistic Knowledge: A Logical Approach to Probabilities (MIT Press, Cambridge, MA, 1990) 233 pages

Chapter 1: *Introduction*. Logic for the analysis of knowledge. The need for transparent semantics. Statistical knowledge. Probabilities as degrees of belief. Direct inference. Subjective probabilities. Outline of what is to come. Limitations and non-limitations. Appendix—probability theory. *Chapter* 2: *Propositional Probabilities*. Probabilities over formulas. Probabilities over possible worlds. A probability logic for propositional probabilities (Syntax. Semantics. The interpretation of the formulas). Examples of representation. Representing statistical probabilities. Proof theory (An axiom system. Soundness. Completeness). Examples of reasoning. Certainty and knowledge (Some formal details. KD45. Probabilistic view of KD45). *Chapter* 3: *Statistical Probabilities*. Probability measures of sets (λ-abstraction. Probabilities over the domain). A probability logic for statistical probabilities (Syntax. Semantics. The interpretation of the formulas. Random selection. Product measures). Examples of representation. Proof theory (Substitution. An axiom system. Soundness. Completeness). Examples of reasoning (Further properties of the probability terms. Representing propositional probabilities). The selection process. *Chapter* 4: *Combining Statistical and Propositional Probabilities*. Non-rigid terms. A probability logic for statistical and propositional probabilities (Syntax. Semantics. The interpretation of the formulas). Examples of representation. Proof theory (An axiom system. Dealing with non-rigid terms. Soundness and completeness). The relation between the different probabilities. An expectation operator (Properties of the expectation operator). *Chapter* 5: *Default Inferences from Statistical Knowledge*. Direct inference. Performing direct inference. The epistemological framework. The formalism (Representing direct inference in the combined probability logic. Proofs of the coherency theorems). Examples. Overly specific reference classes. Non-monotonic reasoning about statistics (The non-monotonic reasoning framework). More examples. Conditional degrees of belief. Discussion and comparison (The statistical interpretation of defaults. Default versus deductive conclusions). Relevance and irrelevance (The need for a theory of relevance. Disjunctive reference classes. Redundant statistical information).

J. Guddat, F. Guerra Vazquez and H.Th. Jongen, Parametric Optimization: Singularities, Pathfollowing and Jumps (Wiley, Chichester, 1990) 191 pages

Chapter 1: *Introduction*. A preliminary survey on solution algorithms in one-parametric optimization. Some motivations. Summaries of Chapters 2–6. *Chapter* 2: *Theoretical Background* (*by H.Th. Jongen*). Preliminary outline. Unconstrained optimization problems. Constraint sets. Critical points, stationary points, stability. Generic singularities in one-parametric optimization problems. The approach via piecewise differentiability. *Chapter* 3: *Pathfollowing of Curves of Local Minimizers*. Preliminary outline. The estimation of the radius of convergence. An active index set strategy. The algorithm PATH I and numerical results. *Chapter* 4: *Pathfollowing Along a Connected Component in the Karush–Kuhn–Tucker Set and in the Critical Set*. Preliminary outline. Pathfollowing in the Karush–Kuhn–Tucker set. The algorithm PATH II and numerical results. Pathfollowing in the critical set. The algorithm PATH III. *Chapter* 5: *Pathfollowing with Jumps in the Set of Local Minimizers and in the Set of Generalized Critical Points*. Preliminary outline. Jumps in the set of local minimizers and the algorithm JUMP I. Jumps in the critical set and the algorithm JUMP II. *Chapter* 6: *Applications*. Preliminary outline. On globally convergent algorithms. On global optimization. On multi-objective optimization.